

3.4 – Snell's Law – Worksheet

1. Calculate the sines for the following angles. Put to 4 significant figures.

a) 30°

0.5000

b) 15°

0.2588

d) 45°

0.7071

e) 0°

0.0000

f) 75°

0.9659

g) 90°

1.0000

2. Calculate the angles for the following sines. Follow the sig-fig rules.

a) 0.2517

14.58°

b) 0.1578

9.079°

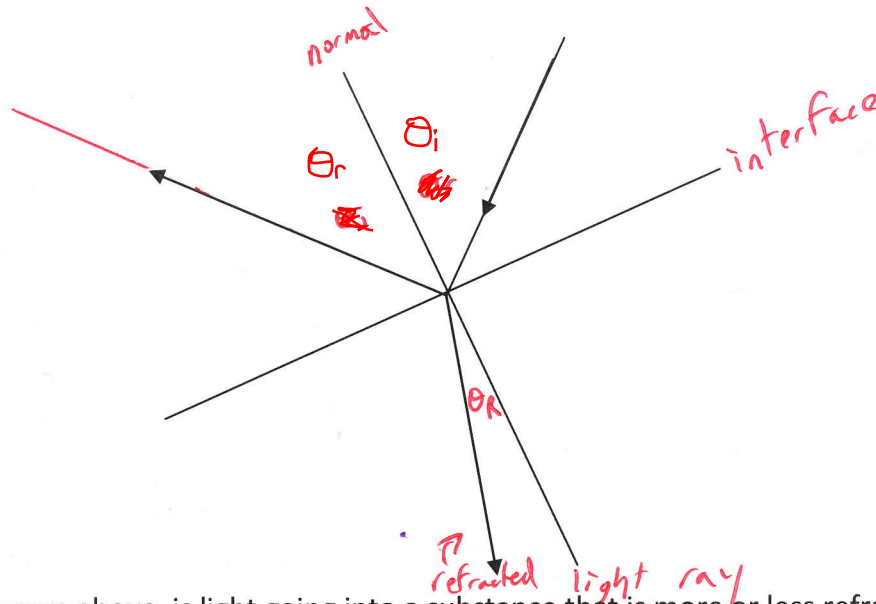
c) 0.88

62°

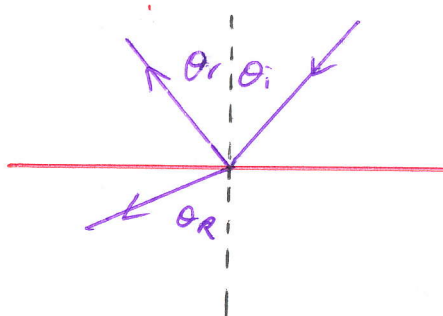
d) 0.757

49.2°

3. In the diagram below, label the angle of incidence, the angle of refraction, the angle of reflection, the normal, the refracted light ray, and the interface:



4. In the diagram above, is light going into a substance that is more or less refractive? Draw a sketch of the opposite situation.



5. For the following situations, trace the light ray into the new substance. Note that each situation involves air being the initial substance. Be sure to show all math and put arrow heads on all rays:

